



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

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For: **EPIDIDYMIS-SPECIFIC RECEPTOR PROTEIN**

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Assistant Commissioner for Patents
Washington, DC 20231

Sir:

PENDING CLAIMS

31. (new) An isolated antibody which reacts with and is specific to at least one epitope included in a protein which has an amino acid sequence of SEQ ID NO:2 or a derivative or fragment thereof, said derivative or fragment thereof having at least one biological activity of said protein or immunogenicity of said protein.

32. (new) The antibody of claim 31 which is a monoclonal antibody.

33. (new) An isolated antibody which reacts with and is specific to at least one epitope of a protein having an amino acid sequence of SEQ ID NO:2.

34. (new) An isolated antibody of claim 31 which reacts with and is specific to said fragment having at least one biological activity of said protein or immunogenicity of said protein.

35. (new) An isolated antibody which reacts with and is specific to a protein having an amino acid sequence consisting of SEQ ID NO:2.

36. (new) An isolated antibody which reacts with and is specific to at least one epitope included in a mammalian epididymis-specific receptor protein which has the amino acid sequence shown in SEQ ID NO: 2, or a derivative of said protein or a fragment of said protein, said derivative or fragment having at least one biological activity and/or immunogenicity of said protein, wherein said derivative or fragment comprises at least ten contiguous amino acids of SEQ ID NO: 2.

37. (new) An antibody of claim 36 wherein said derivative or fragment comprises a hydrophilic region of said receptor.

38. (new) An antibody of claim 37 wherein said derivative or fragment comprises an extracellular hydrophilic region of said receptor.

39. (new) An antibody of claim 36 wherein said protein has a sequence selected from the group consisting of SEQ ID NOs: 2, 3, 4, 5, 6 and 7.

40. (new) An antibody of claim 36 wherein said derivative or fragment comprises at least one sequence selected from the group consisting of any one of SEQ ID NO: 3-7.

41. (new) A composition which comprises an antibody of claim 36.

42. (new) An antibody of claim 36 wherein said antibody is a monoclonal antibody.
43. (new) An antibody of claim 37 wherein said antibody is a monoclonal antibody.
44. (new) An antibody of claim 38 wherein said antibody is a monoclonal antibody.
45. (new) An antibody of claim 39 wherein said antibody is a monoclonal antibody.
46. (new) An antibody of claim 40 wherein said antibody is a monoclonal antibody.
47. (new) An isolated mammalian epididymis specific receptor protein which has an amino acid sequence shown in SEQ ID NO:2 or a derivative or fragment thereof having at least one biological activity and/or immunogenicity of said protein.
48. (new) An isolated protein which has an amino acid sequence shown in SEQ ID NO:2.
49. (new) An isolated protein comprising at least 10 contiguous amino acids of SEQ ID NO:2.
50. (new) A derivative or fragment of claim 47, comprising at least 10 contiguous amino acids of SEQ ID NO:2.

51. (new) A derivative or fragment of claim 50 which comprises a hydrophilic region of said receptor.

52. (new) A derivative or fragment of claim 51, which comprises an extracellular hydrophilic region of said receptor.

53. (new) An isolated protein having a sequence selected from the group consisting of any one of SEQ ID NOs:2, 3, 4, 5, 6 and 7.

54. (new) A derivative or fragment of claim 47, having a sequence selected from the group consisting of any one of SEQ ID NOs:3-7.